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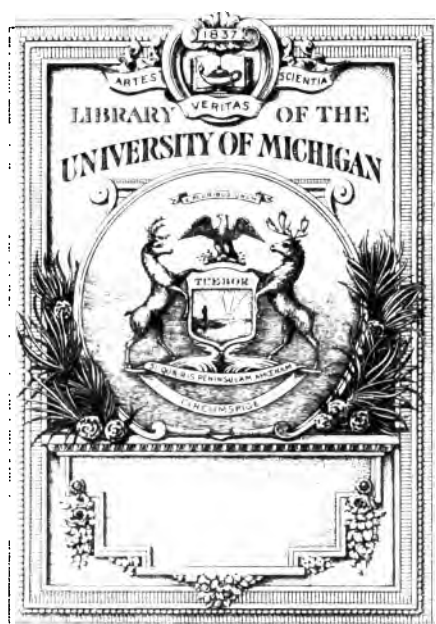
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HANDY LISTS
OF
TECHNICAL LITERATURE

*Reference Catalogue of Books printed in English from 1880 to 1888
inclusive; to which is added a select list of books printed
before 1880 and still kept on Publishers'
and Jobbers' lists.*

COMPILED BY H. E. HAFERKORN.

PART IV.

MINES AND MINING,

ASSAYING, METALLURGY, ANALYTICAL CHEMISTRY, MINERALS AND
MINERALOGY, GEOLOGY, PALÆONTOLOGY, ETC.

Including issues up to May 1891, and a number of earlier Books frequently met
with in Catalogues. Together with a list of Periodicals
and Annuals in these Branches.

MILWAUKEE, WIS.

H. E. HAFERKORN,
PUBLISHER.

1891.

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INTRODUCTION.

Part IV. of Mr. H. E. Haferkorn's "Handy Lists" treats of topics of exceptional importance and value to different parts of our country, and will no doubt be received with the same interest as the preceding parts. Not only, as far as I have been able to discover in examining it, is it fully up to the high Standard of its predecessors, but the changes introduced in the arrangement and fully explained in the preface are genuine improvements, and will be specially appreciated by those who have found it somewhat irksome, in searching for the literature of a particular subject, to look up successively the books under a long series of numbers, when frequently, the author's name or the title of the work, if given as it is now, is sufficient guide for eliminating works that are not wanted. No librarian, bookseller or technical worker can do without the Handy Lists, if he has occasion to look for the information they contain and wants to find easily what a long and weary search would otherwise frequently fail to reveal.

K. A: LINDERFELT.

Milwaukee Public Library,
July 20. 1891.



PREFACE.

Practical experience in using the parts of the "Handy Lists" already published, has suggested various improvements in their arrangement, which have been introduced in the present issue, in order to enable those who consult them to find what they want easily and with as little waste of time as possible. Thus, the method of entering subject references has been changed so as to give UNDER EACH SUBJECT HEADING AN AUTHOR AND SHORT-TITLE LIST OF ALL INDEPENDENT WORKS ON THIS TOPIC, instead of merely giving the numbers assigned to the books in the HANDY LISTS.

If the full title of such a work is desired, it will be found under its number as heretofore.

Analytical subject references to parts of books, such as cyclopedias, technical periodical publications, etc., on the other hand, are still referred to under each subject by number.

In compliance with the expressed wishes of a number of users of the former HANDY LISTS, all the books included in the present part, whether strictly belonging to the period 1880—1891, or printed before 1880, have been entered in a single alphabetical series. Suggestions for other improvements in the make-up are earnestly desired and will receive attention in future issues if their introduction appears to be advantageous.

For the purpose of defining the scope and nature of important works, particularly where it is not sufficiently expressed in the title, special editorial notes and tables of contents have been added in many cases; but, in order to prevent this feature to be looked upon in the nature of an advertisement, it seems desirable to state emphatically that in no instance has a charge of any kind been made for pointing out the special value of such works.

A short list of German works by distinguished authors in the field covered in this part of the HANDY LISTS, has been added for the benefit of the numerous workers in this country familiar with the German language, and the usual list of periodical publications, is continued.

It would undoubtedly have been desirable to include a much fuller list of *Government publications*, as well as works on *Chemistry, Geology and Paleontology*, but it was considered necessary to merely make a selection of the most important of these, so as not to swell unduly the size of this HANDY LIST, or delay its publication by the inherent difficulty of obtaining the necessary information.

The main entry of each work will be found under the author's name, containing full title, year of issue, publisher's or agent's name, editions and price. The *publisher or distributing agent* of each book is indicated by a system of abbreviations, at the end of the entry, which are explained in the accompanying *Key*, containing a list of all publishers and agents represented in this part. For the convenience of booksellers, and especially in order to facilitate procuring books in a hurry, the method of distinguishing the *publisher* in each work heretofore employed in the key has been extended in this part to the abbreviations in the main entry, so that the **heavy** letters indicate the *publisher or sole agent*, while those in ordinary light-faced type designate the *jobber*, to whom the bookseller may apply for copies in case the publisher should be out of the work.

The various editions of a book with their prices have been specified, including American reprints of English works, the price mentioned being that of the *original* publication.

If a second value is added, in a different monetary standard, it indicates the price at which the book is sold by the *jobber* or agent stated in connection with each entry.

If a book has been advertised in a catalogue of second-hand books, or in the catalogue of retail booksellers dealing largely in technical books, the price is enclosed in parenthesis, indicating that this is not the publisher's price.

The exact year of publication has been added in all cases where it could be ascertained, and enclosed in brackets whenever it does not appear on the title page. When two or more editions have been issued at the same price the dates of all but the last have been enclosed in parentheses.

The subject headings are entered in the same alphabetical series as the authors, but are distinguished by being printed in *italics*.

When a "*see*," or "*see also*," precedes a number, it signifies that the subject is incidentally treated in the work referred to; but when placed before a name, the "*see also*" indicates other related subjects, which must also be looked up in order to obtain the whole literature on any given subject.

- Works occurring in a preceding part of the HANDY LISTS, are referred to under the number attached to each one in part I, or part II, etc., as the case may be, and are not repeated in the present part.

ABBREVIATIONS.

add. } additional.	Diag. } diagrams.	Long. T. B. S. Long-	ser. } Series.
addit. } additions.	diag. } diagrams.	man's Text Book	Ser. } Series.
Adv. Sci. Ser. Ad-	Dec. December.	Series.	ship. sheep (binding)
vanced Science Se-	ea. each.	La. } large.	S. K. M. S. A. H.
ries.	Ed. } edition, edi-	la. } large.	South Kensington
Anon. Anonymous.	ed. } ted, editor.	Lib. Library.	Museum Science
Balt. Baltimore.	Elem. Ser. Elemen-	lithog. lithographed	and Art Hand-
bds. boards (bound	tary Series.	Long. London.	books.
in board cover).	enl. enlarged.	Manch. Manchester.	Sm. } small.
Bevan's B. M. I.	flex. flexible.	Mass. Massachusetts	sm. } small.
Bevan's British	Fold. } folded, fol-	Med. 8vo. Medium	Soc. Eng. Trans. So-
Manufacturing In-	fold. } ding.	Octavo.	cietv Engineer's
dustries.	F. cap. 8vo. Fools-	mor. morocco.	Transactions.
Bohn's Sci. Lib.	cap octavo.	Murby's Sci. and Art	Spec. Ser. Special-
Bohn's Scientific	Ga. Georgia.	Ser. Murby's	ist's Series.
Library.	half mor. half mo-	Science and Art	Sq. Square.
Bohn's Illus. Lib.	rocco (binding).	Series.	Stand. standard.
Bohn's Illustrated	half rus. half russi-	n. d. no date.	Subs. } subscription
Library.	(binding).	No. number.	subs. } (sold by sub-
Bost. Boston.	hist. ser. historical	n. p. no price.	scription.
Camb. Math. Ser.	series.	o. o. p. and o. p. out	suppl. supplement.
Cambridge Mathe-	Ill. Illinois.	of print.	Textb. of Sci., Text-
matical Series.	Illus. Illustrated.	N. S. new style.	books of S. Text-
Camb. Sch. and Coll.	Imp. 8vo. Imperial	Pa. } Pennsyl-	books of Science.
T. B. Cambridge	octavo.	Penna. } vania.	thous. thousand.
School and College	Improv. Improved.	Pap. } paper (in pa-	trans. translated.
Text Books.	in. inches.	pap. } per binding).	U. S. United States.
Cass. Tech. Man.	incl. including.	Phila. Philadelphia.	V. N. S. S. Van Nos-
Cassel's Technical	Inst. Institute.	Pl. } plates.	trand's Science Ser-
Manuals.	Internat. Educ. Ser.	pl. } plates.	ies.
Chic. Chicago.	International Edu-	P. 8vo. Post Octavo.	vol. } volume.
clo. cloth (binding).	cational Series.	portr. } portraits.	v. vols. volumes.
col. } colored.	Intern. Sci. Ser. In-	port. } portraits.	W. pl. with plates.
color. } colored.	ternational Science	red. reduced.	Wash. Washington.
Coll. S. T. B. Col-	Series.	rev. revised.	Weale's Ser. Wea-
lin's Science Text	Introd. Introduc-	Roy. Royal.	le's Series.
Books.	tion.	Sci. Ser. Science	
Comp. compiler,	jr. junior.	Series.	
compiled.	L. Ele. Sc. Man. or }	Sci. f. S. T. Ser. Sci-	
cont. contained.	L. Elem. Sci. Man. }	ence for School and	
corr. corrected.	Longman's Ele-	Family Series.	
Cr. } Crown.	mentary Manuals.	Scient. Manuals.	
cr. } Crown.		Scientific Manuals.	

\$ Dollar; c. Cents; £ Pound of Sterling; s. Shilling; d. Pence.

☞ All other abbreviations are self-explanatory.

AMERICAN BOOKSIZES: Folio over 12 inches (30 cm.) high; 4to. Quarto under 12 inches (30 cm.); 8vo. Octavo 10 inches (25 cm.); 12mo. Twelvemo (Duodecimo) 8 inches, (20 cm.); 16mo. Sixteenmo (Sedecimo) 7 inches, (17½ cm.); 18mo. Eighteenmo (Octodecimo) 4½x7½ inches (11x18 cm.); 24mo. Twenty-fourmo (Vicesimo Quarto) 6 inches (15 cm.); 32mo. Thirtytwomo (Trigesimo Secundo) 5 inches, (12½ cm.); 48mo. Fortyeightmo Quadrigesimo Octavo) 4 inches, 10 cm.).

Reference is made to the papers of the *Journal of the Iron and Steel Institute*, as for instance:

in 1875, I No. 434,
this signifying the first volume for 1875 of 434 which is the *Journal of the Iron and Steel Institute*.

TOO LATE FOR INSERTION.

Gold, Copper, Lead.

King, W., and Pope, T. A. Gold, copper and lead in Chota Nagpore and the adjacent country. With map showing the geology of the gold-fields. (Calcutta.) Lond. 1891. Cr. 8vo. 10s, \$4.00. Sp-V-T. *

ERRATA: No. 17 and 18 Andre should be, each \$18.00; No. 19 Knives and Rock Blasting should be \$3.00.

PART IV.

Mines and Mining,

Assaying, Metallurgy, Analytical Chemistry. Minerals and Mineralogy, Geology, Palaeontology, etc.

N. B.—If a dagger † appears before the title it denotes that the DATE of publication could not be traced, but that the book is inserted in "Whitaker's Reference Catalogue," 1889.

If the YEAR appears in brackets [] it designates that the book was copyrighted in that year, but the year does not appear on the title-page.

The year of the FIRST or a FORMER edition is given in parenthesis ().

In cases where an English book is handled by an American importer and *vice versa*, the size mentioned in the importer's catalogue appears in parenthesis ().

- 1 **Aaron, C. H.** Assaying I: gold and silver ores. 2d ed. San Francisco, Cal. (1884) 12mo. \$1.00. B—Ck—Dc.

This work is written by an experienced metallurgist who has devoted many years to assaying and working precious ores on the Pacific side of the American continent. He writes whosoever he knows from personal practice, and in such plain and comprehensive terms that neither the scientist nor the practical miner can mistake his meaning. It will be very desirable in the hands of many.—*Mining and Scient. Press.*

Contains: Implements, Assay balance; Materials; The assay office; Preparation of the ore; Weighing the charge; Mixing and charging; Assay litharge; Systems of the crucible assay; Preliminary assay; Dressing the crucible assays; Examples of dressing; The melting in crucibles; Scorification; Cupellation; Weighing the bead; Parting; Calculating the assay; Assay of ore containing coarse metal; Assay of roasted ore for solubility; To assay a cupel; Assay by amalgamation; To find the value of a specimen; Tests for ores; A few special minerals; Solubility of metals; Substitutes and expedients; Assay tables.

- 2 **Aaron, C. H.** Assaying Parts II and III: gold and silver bullion, lead, copper, tin, mercury, zinc, nickel and Cobalt. Illus. San Francisco, Cal. 1885. 12mo. \$1.75. B—Ck—Dc.

N. B.—This book is entitled "Assaying—Parts II and III", and is separate from Part I.

Contents: Gold and silver bullion; Apparatus; Melting bullion; Assaying bullion; Humid assay of silver; Manipulation, etc.; Lead ores; Copper ores; Volumetric assays; Parkes' process; Amalgamation; New process; Preparation of potassium zanthate; Electrolytic determination of copper in ores, etc.; Assaying of tin, mercury, zinc ores. New method; New assay of nickel and cobalt; Assay of chromium, bismuth, arsenic, antimony, sulphur, salt; Appendix to part I; Notes on crucible assays; Weighing by oscillations; Appendix to part III; The assay of lead and copper.

- 3 **Aaron, C. H.** Leaching gold and silver ores. The Plattner and Kiss processes. A practical treatise. Illus. San Francisco, Cal., 1881. 8vo, \$3.00. B—Ck—Dc.

- 4 **Aaron, C. H.** Practical treatise on testing and working silver ores. Illus. San Francisco 1876. 12mo, \$2.00. B—Ck—Dc.

N. B.—It is written for the miner, with no chemical symbols or metallurgical technicalities to confuse those who are not chemists or metallurgists.

He describes an improvised retort, roasting furnace, furnace tools and furnace building. Among the miscellaneous mention may be found Aaron's leaching apparatus, with two or three different arrangements, a small mill, sampling tailings, and settling tanks, dichloride of copper, etc. Mr. Aaron is a practical miner, of long working experience on this coast.—*Mining and Scient. Press.*

- 5 **Abbot, A. V.** Treatise on fuel. (V. N. S. S.) N. Y. 1891. 18mo, 50c. V.

- 6 **Abel, Sir F. A., jr.** Mining accidents and their prevention; also the United States, British and Prussian laws, regulating the working of coal mines. N. Y. 1889. 12mo, \$4.00. Cn—Sb—Sp—Wn.

Probably no work yet done by Sir Frederick Abel in his many public-spirited researches has such a direct bearing upon the safety and welfare of so large a class of persons, to say nothing of the merely economic side of the question; and it may be safely assumed that none of his many achievements will more redound to his future fame as a scientist and a public benefactor. His work in the present case is a classic of its kind keen, far-sighted, judicial and sound.—*Engineering and Mining Journal.*

- 7 **Abstract and other official forms, and notices under the coal mines regulation act, 1887.** Lond. 1888. Fcap. 4d. E.

- 8 **Abstract of the coal mines regulation act, 1887.** Lond. 1888. Broadside form, 3d. E.

Abyssinia, geology of. Blanford, W. T. 21s. 89.

Accidents in mines. See also Explosions—Underground fire.

Abel F. A. Mining accid. 1889. \$4.00. 6.

Bagot, A. Accidents in mines. 1878. 6s. 42.

Creswick. Explosions and accidents. 1874. \$1.00. 174.

Sawyer, A. R. Accid. in mines. 1889. 25s. 729;

see Hyslop 406, Mather 524.

- 9 **Agassiz, L.** Geological sketches; first and second series. New. ed. 2 vols Bost. 1886. 12mo, each vol. \$1.50. **Hp—V.**
 Air as a fuel. Ross, O. C. D. 1875, 8s 6d. 710.
 Air-compressing machinery, see Percy, v. 2. 634.
- 10 **Alford, C. J.** Geological features of the Transvaal, South Africa. W. maps and illus. Lond. 1891. 8vo, 5s. **Sr.**
- 11 **Alford, C. J.** Mineralogy of the island of Sardinia, in vol. 1879, Soc. Eng. Trans.
- 12 **Allen, A.** Commercial organic analysis: treatise on the modes of assaying the various organic chemicals and products employed in the arts, manufactures, etc., with concise methods for the detection of impurities, etc. 2d ed., rev., enl., and re-arranged. 8 vols. Lond. 1885, 86, 89. 8vo. Vol. I: Alcohols, ethers, vegetable acids and fibres, starch and its isomers, etc. Lond. 1885. 8vo. 14s, \$4.50 o. o. p. Vol. II: Fixed oils, and fats, hydrocarbons and mineral oils, phenols and their derivatives, coloring matter, etc. Lond. 1886. 8vo. 17s 6d. \$5.00 o. o. p. Vol. III, part I: Acid derivatives of phenols, aromatic acids, tannins, dyes, and coloring matters. Lond. 1889. 8vo. 14s, \$4.50. Vol. III, part II: In press. **Bs—Cg—Ck—V.**
- 13 **Alleyne, Sir J.** Estimation of small quantities of phosphorus by spectrum analysis, in 1875, I. No. 434.
- Alloys.** See also Copper-tin Alloys—Metallurgy.
 Brannet, W. T. Metallic a. 1889. \$2.50. 110.
 Hadfield, R. H. Alloys of iron and silicon. 345.
 Hiorns, A. H. Metallic a. 1891. 6s. 372.
 Rammelsberg, C. F. Analysis of alloys. 1872. \$2.25. 664.
 Scoffern, etc. Useful metals and their a. 1869. 7s 6d. 733.
 Thurston. Materials of engineering III. 1884. \$2.50. 823;
 see Brannet-Wahl 111, Byrne 129, Krupp & W. 463, Lock 495a, Overman 610, Richards 682, Spon's Dictionary, part 2, 774.
- Almanac for colliers.**
 Colliery Guard almanack. 2d and 1s. 155a.
- Aluminium.** See also Metallurgy.
 Keep, W. J. Aluminum in carbonized iron. 441.
 Richards, J. W. Aluminium 1889. \$5.00. 682.
 Thurston, R. H. Materials of engineering III. 1884. \$2.50. 823;
 see Davies 208, Lock 495a, Phillips 643, Spon's Dictionary, part 2, 774.
- Amalgams,** see Aaron 4, Brannet 110, Krupp & W. 463, Lock 495a; see also Alloys—Quicksilver.
- Analytical Chemistry.** See also Blowpipe—Chemical reactions—Chemistry—Electrolysis—Volumetric analysis.
 Allen, A. Commercial organic analysis. 3v. 1885—89. 12.
 Bolley. Manual of technical analysis. 5s. 95.
 Bolton, H. C. Quantitative analysis. 1885. \$1.50. 96.
 Douglas and Prescott. Qualitative chem. analysis. 1890. \$3.00 o. p. 221.
 Eliot and Storer. Manual of qualit. analysis. 1883. \$1.50. 240.
 Fresenius, C. Manual of qualitative analysis. 1876. 12s 6d. 276.
 Fresenius, C. The same. 1888. \$4.00. 277.
 Fresenius, C. Manual of quantitative a. 2 v. 1876—86. 20s. 278.
 Fresenius, C. The same. 1888. \$6.00. 279.
 Johnson, A. E. Analyst's laboratory companion. 1888. 5s. 427.
 Mills and Barker. Handbook of quant. analysis. 1889. 3s 6d. 544.
 Normandy, A. Commercial handbook of chem. anal. 1875. 12s 6d. 586.
 Plattner, T. H. Manual of qualit. and quant. anal. 1888. \$5.00. 651.
 Rammelsberg, C. F. Guide to quantit. chem. anal. 1872. \$2.25. 664.
 Snively, J. H. Elements of systematic qualit. chem. anal. 1883. \$2.00. 768.
 Snively, J. H. Tables for syst. qualit. chem. anal. 1879. \$1.00. 769.
 Thorpe, T. E. Quant. chem. anal. 1885. 4s 6d. 821.
 Thorpe and Muir. Qualit. chem. anal. 1883. 3s 6d. 822.
 Trimble, H. Practical and anal. chemistry. 1889. \$1.50. 832.
 Tuttle, H. A. Pocket analysis book. \$2.00. 839.
 Valentin, W. G. Qualit. chem. anal. 1888. 8s 6d. 851.
 Will, H. Tables of qualit. chem. anal. 1881. \$1.50. 893;
 see Bowman 106, Jago 413, Mott 562.
- Analysis,** see Analytical Chemistry—Mineral Analysis.
- 14 **Anderson, A. D.** Silver country; or, the great South-West: review of the mineral and other wealth of the former kingdom of New Spain. W. map. N. Y. 1877. 12mo, \$1.75. **Pz.**

- 15 **Anderson, J. W.** The prospector's handbook: a guide for the prospector and traveler in search of metal-bearing and other valuable minerals. 5th rev. and enl. ed. Illus. Lond. (1888, 1889) 1891. Cr. 8vo. (12mo.) 3s 6d. \$1.50.
B—Ck—Lg—Sp—Wn—Wu.
- 16 **Andre, G. G.** Application of electricity to the ignition of blasting charges, in vol. 1878, Soc. Eng. Trans.
- 17 **Andre, G. G.** Mining machinery, a descriptive treatise on the machinery, tools and other appliances used in mining. W. 182 pl. drawn to scale, with descriptive text. 2 vols. Lond. 1877-79. Roy. 4to. £3 12s. \$28.00.
B—Ck—Sp—V.
Contents: Machinery for prospecting, excavating, hauling and hoisting.—Ventilation.—Pumping.—Treatment of mineral products, including gold and silver, copper, tin and lead, coal, iron, sulphur, china clay, brick earth, etc.
- 18 **Andre, G. G.** Practical treatise on coal mining. 2 vols. W. 82 pl. Lond. (1876) 1878. Roy. 4to. £3 12s. \$28.00. Ck—Cn—Sp—V.
Contents: Practical geology; coal, its mode of occurrence, composition and varieties; searching for coal; shaft-sinking; driving of levels, or narrow work; systems of working; getting the coal; haulage; winding; drainage; ventilation; incidental operations; surface work; management and accounts; characteristics of the coal fields of Great Britain and America.
- 19 **Andre, G. G.** Rock blasting: a practical treatise on the means employed in blasting rocks for industrial purposes. W. Illus. and pl. Lond. 1878. 8vo. 10s 6d, \$4.25. B—Ck—Cn—Sp.
- 20 **Andre, G. G.** The ventilation of coal mines, in vol. 1874, Soc. Eng. Trans.
- 21 **Andrews, E. B.** Elementary geology. N. Y. (1878) 12mo. \$1.00 net. Ac.
Angular surveying, see Lintern, 488.
- 22 **Annual statistical reports of the secretary to the members of the Iron and Steel Association**, on the home and foreign iron and steel industries. Phila. Annually. 8vo, pap., ea. \$2.00. Ae—Sp—St.
- 23 **(Annual)** the same, for 1891. Phila. 1891. 8vo, pap. \$3.00. Ae—Sp—St.
N. B.—This report gives complete statistics of the production and prices of all the principal iron and steel products of the U. S. in 1890 and previous years; also the progress made by the United States in inaugurating the manufacture of tinplates; statistics of production of iron ore and coal in the U. S. in 1890 and previous years; statistics of the construction of railroads and iron and steel ships in the U. S. in 1890 and previous years; complete statistics for 1890 and previous years of U. S. imports and exports of iron and steel and imports of iron ore; statistics for recent years of the iron and steel and coal-mining industries of Great Britain, France, Germany, Belgium, Spain, Italy, Austria and Hungary, Sweden, Canada and other foreign countries. With a careful review of the present condition of the iron and steel industries of the U. S. and other countries.
- 24 †**Ansted, D. Th.** Applications of geology to the arts and manufactures. Illus. Lond. (n. d.) Fcp. 8vo. 4s. Aa.
- 25 †**Ansted, D. Th.** Earth's history; or, first lessons in geology. For schools and students. 3d thous. Lond. (n. d.) Fcp. 8vo. 2s. Aa.
- 26 †**Ansted, D. Th.** Elementary course of geology, mineralogy and physical geography. 2d enl. ed. Re-issue. Illus. Lond. (1869.) P. 8vo. (12mo.) 12s. \$4.80. Ck—Gu.
- 27 †**Ansted, D. Th.** Geologist's text-book. Chiefly intended as a book of reference for the geological student. Lond. (n. d.) Fcap. 8vo, 3s 6d. Gu.
- 28 †**Ansted, D. Th.** Gold-seeker's manual. Lond. (n. d.) Fcap. 8vo, 3s 6d. Gu.
- 29 †**Ansted, D. Th.** Scenery, science, and art; being extracts from the notebook of a geologist and mining-engineer. Illus. Lond. (n. d.) 8vo, 10s 6d. Gu.
- 30 **Anstie, J.** Coalfields of Gloucestershire and Somersetshire, and their resources. Lond. 1873. Roy. 8vo, 6s. Sr.
Anthracite coal. See also Coal—Coke.
Hackney, W. Manufacture of anthracite coke. 344.
Sword, J. F. Coal points. 1891. \$2.00. 799.
see Swank 794, Rogers 699.
Anthracite furnaces, see Overman, 612.
Antimony, see Aaron 2, Davies 208, Kerl I, 445, Lock 495a, Osborn 605, Phillips 643, Spon's Dict'y. Part 4, 774, Thurston III, 823; see also Minerals—Ores.
Anti-rust coatings, see Howe, 385, 386.
Appliances used in mining, see Andre, 17.
Aqueducts, see Spon's Dict'y. Part 4, 774; Views 854.
- 31 †**Argyll, Duke of.** Continuity and catastrophes in geology. An address to the Edinburgh Geolog. Soc. on its 50th anniversary, 1883. Edinburgh (n. d.) Demy 8vo. 1s. Dg.
- 32 **Armour, J.** Iron and heat. Beams, pillars, and iron smelting. 2d ed. Illus. (Weale's Ser.) Lond. 1874. 12mo. (16mo.) 3s 6d and 2s 6d, \$1.20 Ck—Lg.

Arsenic, see Aaron 2, Charleston 140, Davies 208, Kerl I, 445, Kerl 446, Percy VII, 632, Phillips 643; see also Metals—Metallurgy.

Artificial fuels, value of, see Siemens 746.

Asbestos, see also Minerals—Ores.

Jones, R. H. *Asbestos*. 1888. 1s. 429.

Jones. The same. 1890. 12s 6d. 430.

See Brannt-Wahl 111, Davies 208.

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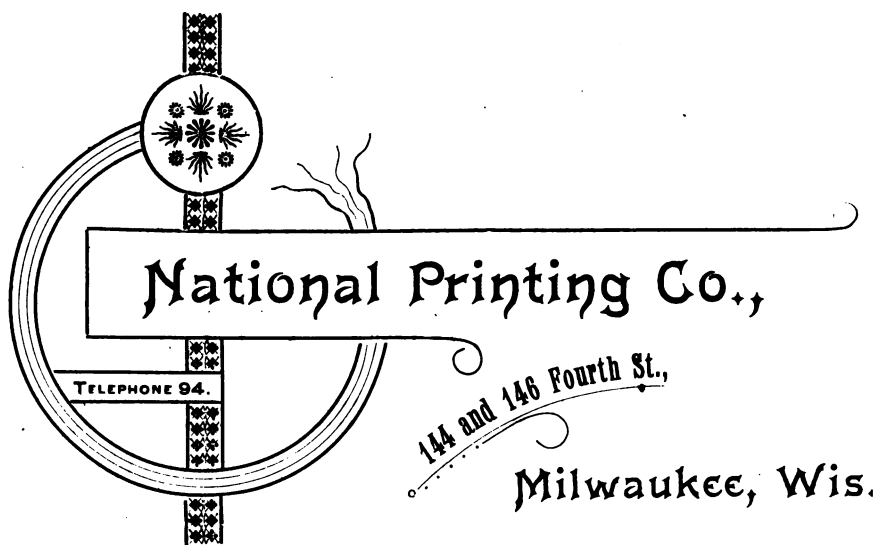
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
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